ABSTRACT OF THE DISCLOSURE

A system and method corrects luminance non-uniformity and increases the apparent amplitude resolution of an image generated by a projector. The projector, which has a given number of stated levels, receives input data and projects images based on that input data. To correct luminance non-uniformity, a projector correction look-up table (LUT) is created. The LUT attenuates the displayed image such that the whole image, assuming it has a uniform level, has the same luminance as the dimmest point. Input data received by the projector is modified by the correction information contained in the LUT. In addition, the output of the projector is analyzed to identify the number of unique levels that the projector is capable of producing, which may be less than the number of stated levels. A dithering engine is utilized to further modify the corrected image data to increase the projector's amplitude resolution, thereby creating the illusion that the projector has more than the limited number of unique levels that were identified.